WHAT IS CLAIMED IS:

1.   A method for managing wireless transmission conflicts on a computing device that supports at least two wireless transmitters, and wherein the wireless transmitters are capable of transmitting both control and data information, the method comprising:

identifying a potential signal conflict arising from simultaneous transmissions by a first wireless transmitter and a second wireless transmitter currently installed on the computing device;

preparing to transmit a first set of data via the first wireless transmitter;

preparing to transmit a second set of data via the second wireless transmitter;

assigning priorities to the first and second sets of data; and

transmitting the first set of data and second set of data, via the first wireless transmitter and the second wireless transmitter, respectively, on a non-conflicting basis and in accordance with priorities assigned to the first and second data sets.

2.   The method of claim 1 wherein the first wireless transmitter embodies a first wireless technology and the second wireless transmitter embodies a second wireless technology.

3.   The method of claim 2, wherein the identifying step comprises:

performing a lookup operation in a table based on the first wireless technology and the second wireless technology.

4.   The method of claim 3, further comprising executing the identifying step to update a previous lookup operation, in response to one or more performance measures for a network interface, from a set of performance measures including:

packet loss rates,

packet errors,

noise level, and

packet retransmit rates.

5.   The method of claim 1, wherein priorities are generated, during the assigning step, based on user-specified preferences for application priority.

6.   The method of claim 1, wherein priorities are generated, during the
5   assigning step, based on which applications are generating the data.

7.   The method of claim 1, wherein priorities are generated, during the assigning step, based on which application types are generating the data.

10   8.   The method of claim 1, wherein priorities are generated, during the assigning step, based on the destination of the data.

9.   The method of claim 1, wherein priorities are generated, during the assigning step, based on the type of the data.
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10.   The method of claim 1, wherein a priority assigned to the first set of data is raised in response to a delay encountered in transmitting the first set of data due to transmission of higher priority sets of data.

20   11.   The method of claim 1 further comprising:
        maintaining a set of prioritized queues for managing transmission of data sets of differing priorities.

12.   The method of claim 1 further comprising:
25   adapting operation of the first and second network interfaces to avoid signal conflicts during simultaneous transmissions.

13.   The method of claim 1 wherein the transmitting step is managed by a coexistence driver that controls passing of data sets from transport drivers to media
30   access drivers for transmission via the first and second wireless transmitters.

14.   A computer-readable medium including computer-executable instructions for facilitating managing wireless transmission conflicts on a computing device that supports at least two wireless transmitters, and wherein the wireless transmitters are capable of transmitting both control and data information, the computer-executable instructions facilitating performing the steps of:

identifying a potential signal conflict arising from simultaneous transmissions by a first wireless transmitter and a second wireless transmitter currently installed on the computing device;

preparing to transmit a first set of data via the first wireless transmitter;

preparing to transmit a second set of data via the second wireless transmitter;

assigning priorities to the first and second sets of data; and

transmitting the first set of data and second set of data, via the first wireless transmitter and the second wireless transmitter, respectively, on a non-conflicting basis and in accordance with priorities assigned to the first and second data sets.

15.   The computer-readable medium of claim 14 wherein the first wireless transmitter embodies a first wireless technology and the second wireless transmitter embodies a second wireless technology.

16.   The computer-readable medium of claim 15, wherein the identifying step comprises:

performing a lookup operation in a table based on the first wireless technology and the second wireless technology.

17.   The computer-readable medium of claim 16, further comprising computer-executable instructions for triggering executing the identifying step, to update a previous lookup operation, in response to one or more performance measures for a network interface, wherein the one or more performance measures are taken from a set of performance measures including:

packet loss rates,

packet errors,

noise level, and

packet retransmit rates.

18.   The computer-readable medium of claim 14, wherein priorities are generated, during the assigning step, based on user-specified preferences for application priority.

19.   The computer-readable medium of claim 14, wherein priorities are generated, during the assigning step, based on which applications are generating the data.

20.   The computer-readable medium of claim 14, wherein priorities are generated, during the assigning step, based on which application types are generating the data.

21.   The computer-readable medium of claim 14, wherein priorities are generated, during the assigning step, based on the destination of the data.

22.   The computer-readable medium of claim 14, wherein priorities are generated, during the assigning step, based on the type of the data.

23.   The computer-readable medium of claim 14, wherein a priority assigned to the first set of data is raised in response to a delay encountered in transmitting the first set of data due to transmission of higher priority sets of data.

24.   The computer-readable medium of claim 14 further comprising computer-executable instructions for:

maintaining a set of prioritized queues for managing transmission of data sets of differing priorities.

25.   The computer-readable medium of claim 14 further comprising computer-executable instructions for:

adapting operation of the first and second network interfaces to avoid signal conflicts during simultaneous transmissions.

26.   The computer-readable medium of claim 14 wherein the transmitting step is managed by a coexistence driver that controls passing of data sets from transport drivers to media access drivers for transmission via the first and second wireless transmitters.

27.   A method for avoiding conflicts between wireless technology interference sources, the method comprising:

maintaining a conflict map identifying potentially conflicting wireless

5   technologies;

identifying conflicts arising from wireless technology interference sources based on entries within the conflict map for a set of currently installed wireless technology interfaces; and

creating a virtual coexistence driver to manage an identified set of conflicting

10   wireless technology interference sources, wherein the coexistence driver regulates transmission of data sets by wireless technology interfaces according to a coexistence scheme.

28.   The method of claim 27 further comprising the steps of:

15   calculating a congestion/interference (C/I) metric for each of a set of channels; and

applying a threshold to identify satisfactory wireless channels for implementation of the coexistence scheme.

20   29.   The method of claim 28 further comprising the steps of:

determining, during the applying step, that a first wireless technology interface is unacceptable, and

replacing use of the first wireless technology by a second wireless technology.

25   30.   The method of claim 28, wherein the C/I metric is calculated based on one or more of the following: operational frequencies, signal strength, the packet error rate, average packet retry count, and noise level for each conflicting channel.

31.   The method of claim 27 wherein the coexistence scheme permits multiple

30   network interfaces to transmit in parallel on non-conflicting channels.

32. The method of claim 27 wherein the coexistence scheme prescribes multiplexing traffic to conflicting network interfaces.

33. The method of claim 32 wherein the coexistence scheme regulates the multiplexed transmission of packets based on one or more of the following parameters: C/I, traffic priorities, starvation time, and driver delays.

34. The method of claim 32 wherein a VCD created by the coexistence driver includes a queuing functionality for managing pending data packets of varying priority.

35. The method of claim 34 wherein the VCD created by the coexistence driver includes a prioritization functionality for managing the priorities assigned to pending data packets in accordance with a traffic control algorithm.

36. The method of claim 27 wherein a VCD created by the coexistence driver includes adaptation functionality for prescribing mode/frequency of operation of at least one of the wireless technology interfaces to facilitate simultaneous transmissions by multiple wireless technology interfaces.

37. The method of claim 36 wherein the VCD prescribes a mode/frequency of operation of a first network interface and a second network interface embodying a same wireless technology to facilitate simultaneous transmissions by the first and second network interfaces.

38.   A computer-readable medium including computer-executable instructions for facilitating avoiding conflicts between wireless technology interference sources, the computer-executable instructions facilitating performing the steps of:

maintaining a conflict map identifying potentially conflicting wireless

5   technologies;

identifying conflicts arising from wireless technology interference sources based on entries within the conflict map for a set of currently installed wireless technology interfaces; and

creating a virtual coexistence driver to manage an identified set of conflicting

10   wireless technology interference sources, wherein the coexistence driver regulates transmission of data sets by wireless technology interfaces according to a coexistence scheme.

39.   The computer-readable medium of claim 38 further comprising computer-

15   executable instructions for performing the steps of:

calculating a congestion/interference (C/I) metric for each of a set of channels; and

applying a threshold to identify satisfactory wireless channels for implementation of the coexistence scheme.

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40.   The computer-readable medium of claim 39 further comprising computer-executable instructions for performing the steps of:

determining, during the applying step, that a first wireless technology interface is unacceptable, and

25   replacing use of the first wireless technology by a second wireless technology.

41.   The computer-readable medium of claim 39, wherein the C/I metric is calculated based on one or more of the following: operational frequencies, signal strength, the packet error rate, average packet retry count, and noise level for each

30   conflicting channel.

42. The computer-readable medium of claim 38 wherein the coexistence scheme permits multiple network interfaces to transmit in parallel on non-conflicting channels.

5   43. The computer-readable medium of claim 38 wherein the coexistence scheme prescribes multiplexing traffic to conflicting network interfaces.

44. The computer-readable medium of claim 43 wherein the coexistence scheme regulates the multiplexed transmission of packets based on one or more of the 10   following parameters: C/I, traffic priorities, starvation time, and driver delays.

45. The computer-readable medium of claim 43 wherein a VCD created by the coexistence driver includes a queuing functionality for managing pending data packets of varying priority.

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46. The computer-readable medium of claim 45 wherein the VCD created by the coexistence driver includes a prioritization functionality for managing the priorities assigned to pending data packets in accordance with a traffic control algorithm.

20   47. The computer-readable medium of claim 38 wherein a VCD created by the coexistence driver includes adaptation functionality for prescribing a mode of operation of at least one of the wireless technology interfaces to facilitate simultaneous transmissions by multiple wireless technology interfaces.

25   48. The computer-readable medium of claim 47 wherein the VCD prescribes a mode of operation of a first network interface and a second network interface embodying a same wireless technology to facilitate simultaneous transmissions by the first and second network interfaces.

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49. A system including a coexistence architecture facilitating detecting and managing conflicts between wireless technology interference sources, the system comprising:

a conflict map identifying potentially conflicting wireless technologies; and

5   a coexistence driver for:

identifying conflicts arising from wireless technology interference sources based on entries within the conflict map for a set of currently installed wireless technology interfaces; and

creating a virtual coexistence driver to manage an identified set of

10   conflicting wireless technology interference sources, wherein the coexistence driver regulates transmission of data sets by wireless technology interfaces according to a coexistence scheme.

50. The system of claim 49 wherein the system includes executable

15 instructions for:

calculating a congestion/interference (C/I) metric for each of a set of channels; and

applying a threshold to identify satisfactory wireless channels for implementation of the coexistence scheme.

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51. The system of claim 50 further comprising executable instructions for:

determining, during the applying step, that a first wireless technology interface is unacceptable, and

replacing use of the first wireless technology by a second wireless technology.

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52. The system of claim 50, wherein the C/I metric is calculated based on one or more of the following: operational frequencies, signal strength, the packet error rate, average packet retry count, and noise level for each conflicting channel.

30   53. The system of claim 49 wherein the coexistence scheme permits multiple network interfaces to transmit in parallel on non-conflicting channels.

54.   The system of claim 49 wherein the coexistence scheme prescribes multiplexing traffic to conflicting network interfaces.

5   55.   The system of claim 54 wherein the coexistence scheme regulates the multiplexed transmission of packets based on one or more of the following parameters: C/I, traffic priorities, starvation time, and driver delays.

56.   The system of claim 54 wherein a VCD created by the coexistence driver

10   includes a queuing functionality for managing pending data packets of varying priority.

57.   The system of claim 56 wherein the VCD created by the coexistence driver includes a prioritization functionality for managing the priorities assigned to pending data packets in accordance with a traffic control algorithm.

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58.   The system of claim 49 wherein a VCD created by the coexistence driver includes adaptation functionality for prescribing a mode of operation of at least one of the wireless technology interfaces to facilitate simultaneous transmissions by multiple wireless technology interfaces.

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59.   The system of claim 58 wherein the VCD prescribes a mode of operation of a first network interface and a second network interface embodying a same wireless technology to facilitate simultaneous transmissions by the first and second network interfaces.

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